CLIMATE PROGRAM OFFICE

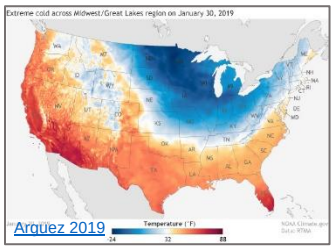
Climate Observations and Monitoring

COM works collaboratively with NOAA and the external academic community to leverage existing observational assets and develop value-added data products, diagnostics, and indices that have a strong scientific foundation and are publicly accessible. COM supports competitive projects that:

- **Address uncertainties** through development and analysis of climate data sets,
- **Innovate solutions** to inadequate spatial or temporal resolution, and coverage or biases in existing datasets,
- **Document risks to society** – i.e. variability and changes in climate phenomena.

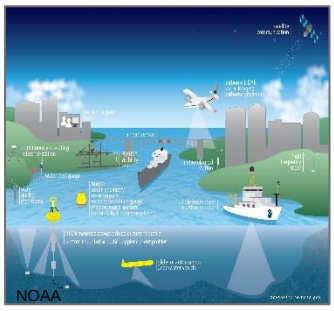
Snapshots: 2014 - 2019

Contributions from NOAA/OAR Labs and University Researchers

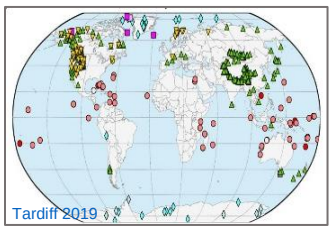


Arguez 2019

Detecting Change with Climate Indicators
Scientists developed baselines for summer heatwaves, improved monitoring of extreme temperatures, and quantified changes in weather types, which informed research on mortality response to extreme heat and cold events. Funded research also developed a comprehensive set of indicators for the Arctic. Projects still in progress will yield insights into water resources in the West and risks of sea level rise to coastal communities.


NOAA

Understanding the Ocean and Atmosphere for Better Prediction
Scientists utilized Ocean Climate Stations, Global Tropical Moored Buoy Array, Argo floats, satellites, and other observational NOAA platforms to advance understanding of air-sea flux, ocean heat, transport, etc. for a number of climate applications in the Atlantic, Pacific, Indian, and Arctic Oceans (e.g. hurricane reanalysis, sea ice forecasting, indices). Results from funded projects highlight how ocean conditions impact risks to society, such as drought and heavy rainfall, and provide information for water management considerations on the East and West Coasts. Projects still in progress will yield insights into subsurface ocean processes, advance ocean wind indices, and further tropical cyclone prediction.


Tardiff 2019

Exploring Modern Climate Phenomena with the Paleo Record
The Last Millennium Reanalysis Data Set connects paleo data to modern day models. This funded dataset construction effort has spurred methods development and advanced understanding of droughts, volcanos and tropical cyclones, global temperatures, and the Atlantic MultiDecadal Oscillation, as well as elucidated mechanisms of uncertainty in models. FY18 projects utilizing the LMR continue to yield new insights into climate dynamics.

COM Program Contact: Dr. Virginia Selz, virginia.selz@noaa.gov